# TARGETING LANGUAGE LEARNING SKILLS IN ELLS THROUGH MULTIPLE INTELLIGENCES

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**Abstract**

English Language Learners (ELLs) are a significantly growing population in public schools. Commonly, they are the students who struggle the most when trying to complete academic tasks and learning a second language simultaneously. As a result, students feel stressed, frightened, and overwhelmed for not performing well at their grade levels. Hence, teachers play an essential role in providing learning environments where ELLs feel confident and comfortable. In addition, teachers are required to implement teaching strategies that benefit students and encourage them to be more active and engaged in the classroom. That is why the Theory of Multiple Intelligences (MI) by Howard Gardner helps teachers recognize their students' unique skills and learning styles. Within this approach, language can be taught in various creative ways. This paper summarizes the MI theory and its implications in teaching and language learning. It presents a handbook with a compilation of teaching strategies for ELLs based on the MI model. These strategies can increase student engagement in language learning tasks, and teachers can change their traditional teaching to a more engaging and diverse one.

## Dedication

I dedicate this thesis to God, my creator, my source of strength, inspiration, wisdom, and understanding. I also dedicate this work to my mom and grandma for their constant prayers that gave me the courage to complete this project. To my brothers for their continuous support despite the distance. To my husband, Houston, who has encouraged me all the way. To my sisters, Evelyn and Elizabeth who cheered me up when I felt overwhelmed. To all my friends who believed in me and pushed me to try harder every time I felt like giving up. Finally, to my dear friend Adriana who shared this academic journey with me from the very beginning. My love for you all can never be measured. God bless you.

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# Chapter 1: Introduction

English Language Learners (ELLs) are a significant and growing portion of the school population in the United States. The number of immigrants enrolling in elementary, middle, and high schools keep increasing. North Carolina is one of the eight states with more ELL students enrolled in public schools every year in terms of size. In addition, many of these students have not had any exposure to the English language because they come from family backgrounds where only the first language is spoken at home. Some of them may have completed a few grade levels where English was taught but find out that their knowledge is insufficient to communicate and achieve all the required academic tasks.

As part of Hoke County Schools, I have witnessed the increase of ELL students for the past four years. The county's vision for these students is to build capacity at the school level and sustain district-wide implementation of research-based strategies to meet the needs of their English learners. However, some English as Second language (ESL) teachers in my county and school still need to acquire new strategies and develop approaches to help their students learn. By receiving effective education, they can use effective teaching strategies. Students might engage easily with a second language if teachers use various teaching strategies according to their learning styles.

As the number of ELLs increases at the elementary level, it is vital to implement and develop effective teaching strategies to address their needs. Being an English as a Foreign Language (EFL) teacher in Honduras and helping immigrant families with translation services at

my school has provided me with different perspectives of the many struggles these students face during their learning process.

One of the approaches in primary English language teaching methods is the *Theory of Multiple Intelligences* by Howard Gardner. This theory offers nine ways of teaching and learning styles. He suggested that everyone can develop all nine intelligences to a reasonably high level of performance with appropriate encouragement, enrichment, and instruction (Al-Salameh, 2012). The nine Multiple intelligences are:

- Linguistic intelligence: the ability to use words effectively both orally and in writing.
- Logical-mathematical: the ability to use numbers effectively and reason well.
- Visual-spatial: the ability to sense form, space, color, line, and shape.
- Bodily-kinesthetic: the ability to use the body to express ideas and feelings and to solving problems.
- Musical: the ability to sense rhythm, pitch, and melody.
- Interpersonal: ability to understand another person's moods, feelings, motivations, and intentions.
- Intrapersonal: the ability to understand yourself, your strengths, weaknesses, moods, desires and intentions.
- Naturalist: the ability to recognize and classify plants, minerals, and animals. (Al-Salameh, 2012).
- Existential: the ability to ask and try to answer big questions which related to existence, and deep meaning of life (Rubado, 2002).

As a result, this thesis project aims to provide elementary teachers third through fifth grade with various teaching strategies and activities to guide students through their language learning journey more effectively. Indeed, students perform more actively and engagingly when teachers provide instruction with strategies involving collaboration, enthusiasm, creativity, dynamism, and more interaction based on the ways they learn. That is why I have designed a *Handbook of Multiple Intelligences Strategies for Teachers of ELLs.* This handbook intends to inform teachers about the theory of Multiple Intelligences. It helps them identify their Multiple Intelligences profiles. In addition, this handbook also includes checklists for teachers to identify ELLs' learning styles. It equips teachers with diverse teaching strategies that they can apply based on the Multiple Intelligence model. Through implementing this model, teachers can move their teaching from a traditional way to a more engaging and varied way. Therefore, this handbook can be an effective tool when teachers plan their lessons to increase students' engagement in language learning tasks.

Moreover, this handbook provides lesson examples for teachers to use as a guide during their planning time. A lesson template is also attached so that teachers can incorporate it into their main lesson plans. In the same way, the strategies are compiled according to each intelligence. I believe this handbook can be beneficial for helping students to improve their language learning skills. It will also help teachers to work simultaneously with different students with unique learning styles and different attitudes towards learning.

In short, ELLs usually struggle to choose appropriate strategies for language acquisition. Successful language learners are more likely to use strategies according to specific tasks, contexts, or different needs. Teachers and researchers have recognized the importance of

supporting learners in effective strategy use to promote learner autonomy and self- regulation (Weinstein et al., 2011). Therefore, teachers are encouraged to teach learners how to choose appropriate strategies to enhance levels of self-directed learning (Reder & Strawn, 2001). In addition, teachers should consider the psychological characteristics of students during their learning process. It is crucial to create a learning environment where students feel curious and for creativity to take place.

# Chapter 2: Literature Review

In this chapter, I will review studies, theories, and concepts related to Multiple Intelligences, the influence of Multiple Intelligences in the development of the English language for English Language Learners (ELLs), and language learning and teaching strategies. I will begin by providing an overview of the term *intelligence.* Next, I will describe the theory of Multiple Intelligences by Howard Gardner. Finally, I will conclude with a discussion of the importance of implementing the model of Multiple Intelligences in the classroom and an outline of strategies based on MI model to help ELLs academic performance.

## Multiple Intelligences

The term *intelligence* has been recognized by psychologists as the ability to solve problems, and it has been measured through IQ tests (Visser et., al, 2006). In other words, *intelligence* is being empowered by the capacity of resolving daily difficulties.

In 1983, Dr. Howard Gardner developed through his book *Frames of Mind: The Theory of Multiple Intelligences*, where he stated that each person possesses eight intelligences, and they all function differently (Arulselvi, 2018). Since that moment, intelligence was no longer defined through IQ scores or test results but as a biopsychological process (Kornhaber and Veenema, 2004). Some factors like culture, motivation, and experience can influence a biopsychological process. On the one hand, Weinreich-Haste (1985) stated that the way Gardner categorized intelligences confused many people because they view those categories as talents or skills. On

the other hand, Gardner (1999) explained that his theory of Multiple Intelligences would not have gotten much attention if he had categorized intelligences as gifts or faculties.

According to Gardner (1999), the brain of a human has the ability to perform on numerous intelligences separately. This means that people can ingeniously solve problems by using a variety of intelligences. Originally, Gardner (1983) suggested seven intelligences, Logical/Mathematical, Linguistic, Spatial, Intrapersonal, Interpersonal, Musical, and Bodily-Kinesthetic. Lately, he has suggested two more intelligences, Naturalistic and Existential.
In addition, Armstrong (2008) pointed out three factors are needed for an intelligence to be developed:

1. Cultural and historical background: the place and time where an individual was born or raised and historical events, these play an important role to develop an intelligence.
2. Personal life history: experiences (with family, friends, teachers, peers) that can help to foster or block an intelligence.
3. Biological endowment: genetic factors and damages to the brain.

In the same way, Armstrong (2008) also highlighted some important facts about the Multiple Intelligences (MI) theory:

1. Each individual can have all nine intelligences; however, each intelligence can function in a highly, modestly, and relatively level.
2. Each intelligence can be developed according to levels of competency in most people, only if they have the correct instruction, reinforcement, and enrichment.
3. Intelligences have a complex way of working and interacting with each other. No intelligence occurs by itself except in unusual situations.

4. Each category facilitates various ways to be intelligent. Specific attributes or standards are not required to be intelligent in an exclusive category.

After providing an overview of Multiple Intelligences, this theory involves other theories or models. Armstrong (2008) stated that some type of intelligences had also arisen like Guildford's Structure of the Intellect and General Intelligence by Spearman and several emergent numbers of learning-style theories. However, Gardner (1995) differentiated the conception of learning style from his theory of Multiple Intelligences. He wrote:

> The concept of style designates a general approach that an individual can apply equally to every conceivable content. In contrast, an intelligence is a capacity, with its component processes, that is geared to a specific content in the world (such as musical sounds or spatial patterns) (Gardner, 1995, pp. 202–203).

In other words, learning styles are not the same thing as Multiple Intelligences. Learning styles are the techniques to complete various assignments. In contrast, Multiple Intelligences is a model based on individuals' reasoning, intellectual, and thinking when using their intelligences to solve difficulties (Armstrong, 2008, p. 18).

In brief, an individual's intelligence is no longer measured by traditional IQ tests due to the existence of Multiple Intelligences. The theory of MI is a model of intellectual skills that a person possesses to resolve difficulties in life. In addition, an individual can function through a combination of intelligences. However, cultural, historical, personal, and biological factors can nurture or hinder intelligences from developing in people (Kornhaber and Veenema, 2004; Gardner, 1999; Armstrong, 2008).

**The Influence of Multiple Intelligences in the Classroom**

The Multiple Intelligences model can be summarized as a set of cognitive skills that can lead learners to be intelligent in their unique ways and solve problems creatively. As a result, many schools and educators have been interested in the theory of Multiple Intelligences and its implementation in the classroom to help students in their academic performance. Students should be taught based on the Multiple Intelligence model because Naeini (2015) has remarked in her work that teaching students through this model is more beneficial due to the variety of cognitive skills they may develop rather than just focusing on one specific intellectual skill.

Armstrong (2008) emphasized that teachers can benefit from using a broad list of teaching strategies based on the MI model to help their students be successful at school. This means that students would be more knowledgeable by using a variety of learning activities that include a combination of intelligences. Similarly, Berman (1998) pointed out that students' learning potential can be addressed by the variety of activities that teachers could implement as soon as they apply the MI model in their classrooms.

In figure 1, an illustration of the MI model shows eight ways of learning for students, how students think, love to do, and what is needed when performing on a particular skill.

3.1
**Eight Ways of Learning**

| Children who are highly . . . | Think . . . | Love . . . | Need . . . |
|---|---|---|---|
| ***Linguistic*** | in words | reading, writing, telling stories, playing word games | books, tapes, writing tools, paper, diaries, dialogue, discussion, debate, stories |
| ***Logical-Mathematical*** | by reasoning | experimenting, questioning, figuring out logical puzzles, calculating | materials to experiment with, science materials, manipulatives, trips to planetariums and science museums |
| ***Spatial*** | in images and pictures | designing, drawing, visualizing, doodling | art, Legos, videos, movies, slides, imagination games, mazes, puzzles, illustrated books, trips to art museums |
| ***Bodily-Kinesthetic*** | through somatic sensations | dancing, running, jumping, building, touching, gesturing | role-play, drama, movement, building things, sports and physical games, tactile experiences, hands-on learning |
| ***Musical*** | via rhythms and melodies | singing, whistling, humming, tapping feet and hands, listening | sing-along time, trips to concerts, playing music at home and school, musical instruments |
| ***Interpersonal*** | by bouncing ideas off other people | leading, organizing, relating, manipulating, mediating, partying | friends, group games, social gatherings, community events, clubs, mentors/apprenticeships |
| ***Intrapersonal*** | in relation to their needs, feelings, and goals | setting goals, meditating, dreaming, planning, reflecting | secret places, time alone, self-paced projects, choices |
| ***Naturalist*** | through nature and natural forms | playing with pets, gardening, investigating nature, raising animals, caring for planet earth | access to nature, opportunities for interacting with animals, tools for investigating nature (e.g., magnifying glasses, binoculars) |

Figure 2.1. Sample of eight ways of learning based on the MI model. Adapted from *Multiple Intelligences in the Classroom* (p.33), by T. Armstrong, 2008, Alexandria, VA: Association for Supervision and Curriculum Development. Copyright 2008.

As indicated, students can learn in unique ways by applying various intelligences based on how they think and what they love the most to do when using a specific intelligence.

**English Language Learners and Second Language Acquisition**

After having illustrated ways students learn based on the MI model, it is important to examine how teachers can help English Language learners (ELLs) to be successful in acquiring a second language by implementing the MI model. However, it is also pivotal to mention how ELLs are a rapid growing population at schools. In the same way that the number of ELLs increases in public schools, it is crucial to develop strategies that help these students to be academically successful. A survey by Hopstock and Stephenson (2003) revealed that 50% of English language learners fail their graduation tests, compared with 24% of students who are English proficient. A significant number of students need bilingual services, and it is the federal government's job to collect primary data to help them. Not being proficient enough in English also causes these students not to graduate proportionately as the students who are English proficient. However, the job of supporting ELLs to prevent them from failing graduation tests or performing successfully at school, begins with the teachers.

According to Herrera & Murry (2011) learning a second language is a complex and frightening task. However, it can be acquired in the school setting in a smoother way (Sun, 2019) This means that teachers play an important role in their students' second language acquisition because they are responsible for providing students learning strategies and techniques to acquire a second language. Additionally, Short et., al (2018) pointed out an important fact about teachers making decisions related to teaching techniques, methods, or strategies; teachers need to know what enables students' learning process.

Moreover, knowing the students' proficiency levels in academic English can help teachers plan appropriate lessons and implement various strategies that may target students' language learning. Li (2005) highlighted that effective teaching strategies seek to help ELLs

make connections between content and language and support their communication and social interactions. Meanwhile, Jones & Jones (2004) stated that effective teachers have confidence in the abilities of their students and motivate them to achieve realistic, significant goals. As a result, learners can be active participants in the learning and teaching process rather than passive recipients. Olaya (2018) suggested in her work that teachers can implement the use of journals, lesson reports, audio, video recordings, and self-monitoring methods as teaching strategies of reflection to enhance English teaching practices.

In brief, as the number of ELLs escalates at school, it is important to equip students with strategies that can target language learning skills. Teachers can serve ELLs better if they help them with their social and communication exchanges by leading them to make associations between language and content. In addition, motivation is an important factor in students' abilities to learn to succeed in their academic goals. Teachers are also required to be reflective practitioners; they can use different strategies like journals or lesson reports to enhance their teaching (Li, 2005; Jones & Jones, 2004; Olaya, 2018).

**Implementing Multiple Intelligences Strategies for English Language Learners**

Regarding implementing strategies to teach a second language, ELLs are more comfortable and more confident with teaching styles that are more interactive (Curtin, 2005). In other words, ELLs would be more encouraged and engaged when teachers implement strategies that involve interaction, collaboration, dynamism, and enthusiasm when learning a second language. In their study, Cohen and Wang (2018) argued that language learner strategies are monolithic regarding their function: metacognitive, cognitive, social, or affective. In the same way, Oxford and Ehrman (1995) listed some aspects that affect how students choose their

language learning strategies like cultural background, beliefs, gender, age, motivation, attitudes and learning styles. Moreover, researchers and teachers emphasize the importance of promoting self-regulation and learner autonomy in students for effective strategy use. (Weinstein et al., 2011). In the same way, choosing appropriate strategies is also part of teacher's tasks to help students' self-directed learning (Reder & Strawn, 2001).

It is evident that teachers have a lot of responsibility in students' learning success. That is why, it is critically important that teachers know their students' differentiated needs. Hence, Gardner's theory of Multiple Intelligence can equip teachers with a variety of teaching strategies to address students' different learning styles. However, Miller and Pierpoint (1996) stated that there is a misconception about the theory of Multiple Intelligences; its implementation in the classroom is not just to make students feel good about themselves but to know the best ways to learn. In addition, teachers do not have the power or ability to read their students' minds to figure out how much they know or how they learn; that is why the theory of Multiple Intelligences should be considered in their teaching practices (Miller & Pierpoint, 1996). According to Nolen (2003), when teachers apply the MI model, they can comprehend students better; they can adjust their instruction based on students' unique learning styles. As a result, students will be active learners. In the same way, through the MI model, students can obtain authentic learning that targets their interests and needs (Lunenburg & Lunenburg, 2014).

As a way to make the MI model a success, teachers need to teach strategies with a variety of activities, and students need to learn and put into practice those strategies to enhance their learning. To provide an example about targeting a language skill in ELLs, Naeini (2015) carried out a study to improve students' listening. Her work was based on investigating how MI-based activities influence students' listening proficiency. She noted that one group completed activities

involving various intelligences instead of the second group that completed activities involving the one intelligence that made them feel more confident. Her objective was to find out how students' listening skills improved after implementing MI-based activities. Naeini (2015) concluded that English as a Foreign Language (EFL) learners' listening comprehension could considerably improve by implementing the model of Multiple Intelligences. She encouraged teachers not to focus on students' most developed intelligence but to practice all of them when teaching EFL students. Similarly, Aydin (2019) carried out a meta-analysis of 91 studies that disclosed that learning and teaching techniques based on Multiple Intelligences had an effect of success on students who had been exposed to activities based on the MI model as opposed to the group of students who had been exposed to activities based on traditional methods.

To summarize, the integration of the Theory of Multiple Intelligences is beneficial for students and teachers because research has shown that its implementation provides students with learning opportunities that help to foster their learning abilities and it equips teachers with various teaching tools to keep their students engaged.

**Strategies based on the Theory of Multiples Intelligences**

Having explored the importance and benefits of implementing the model of Multiple Intelligences in the classroom, it is appropriate, at this point, to mention specific strategies based on each intelligence. According to Lunenburg and Lunenburg (2014) increasing student understanding is the main goal of Multiple Intelligences theory. A variety of activities developed in the classroom can stimulate more than one of the multiple intelligences. For instance, a journal writing, develops linguistic and intrapersonal intelligences. A choreography incorporates linguistic, and musical intelligences. Making graphs stimulates logical-mathematical and spatial

intelligences. Designing posters combine linguistic and spatial intelligences. The implementation of Hands-on activities stimulates logical-mathematical and kinesthetic intelligences.

In the same way, Armstrong (2008) listed several strategies, teaching tools, techniques, and materials based on Multiple Intelligences that teachers can implement in their classrooms. Figure 2.2 offers a summary of the MI teaching methods.

**5.1 Summary of the Eight Ways of Teaching**

| Intelligence | Teaching Activities (Examples) | Teaching Materials (Examples) | Instructional Strategies | Sample Educational Movement (primary intelligence) | Sample Teacher Presentatio n Skill | Sample Activity to Begin a Lesson |
|---|---|---|---|---|---|---|
| **Linguistic** | Lectures, discussions, word games, storytelling, choral reading, journal writing | Books, tape recorders, typewriters, stamp sets, books on tape, online books | Read about it, write about it, talk about it, listen to it | Critical Literacy | Teaching through storytelling | Long word on the blackboar d |
| **Logical-Mathematical** | Brain Teasers problem solving, science experiments, mental calculation, number games, critical thinking | Calculators, math manipulative s, science equipment, math games | Quantify it, think critically about it, put it in a logical framework, experiment with it | Critical Thinking | Socratic questioning | Posing a logical paradox |
| **Spatial** | Visual presentation s, art activities, imagination games, mind-mapping, metaphor, visualization | Graphs, maps, video, Lego sets, art materials, optical illusions, cameras, picture library | See it draw it, visualize it, color it, mind-map it | Integrated Arts Instruction | Drawing, mind-mapping concepts | Unusual picture on the overhead |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Bodily-Kinesthetic** | Hands-on learning, drama, dance, sports that teach, tactile activities, relaxation exercises | Building tools, clay, sports equipment, manipulatives, tactile learning resources | Build it, act it out, touch it, get a "gut feeling" of it, dance it. | Hands-On Learning | Using gestures, dramatic expressions | Mysterious artifact passed around the class |
| **Musical** | Rhythmic learnings, rapping, using songs that teach | Tape recorder, tape collection, musical instruments | Sing it, rap it, listen to it | Orff Schulwerk | Using voice rhythmically | Piece of music played as students come into class |
| **Interpersonal** | Cooperative learning, peer tutoring, community involvement, social gatherings, simulations | Board games, party supplies, props for role-plays | Teach it, collaborate on it, interact with respect to it | Cooperative Learning | Dynamically interacting with students | "Turn to a neighbor and share…" |
| **Intrapersonal** | Individualized instruction, independent study, options in course of study, self-esteem building | Self-checking materials, journals, materials for projects | Connect it to your personal life, make choices with regard to it, reflect on it | Individualized Instructions | Bringing feeling into presentation | "Close your eyes and think of a time in your life when…" |
| **Naturalist** | Nature study, ecological awareness, care of animals | Plants, animals, naturalists' tools (e.g., binoculars), gardening tools | Connect it to living things and natural phenomena | Ecological Studies | Linking subject matter to natural phenomena | Bring in an interesting plant or animal to spark discussion about topic |

Figure 2.2 Sample of eight ways of teaching based on the MI model. Adapted from *Multiple Intelligences in the Classroom* (pp. 58-59), by T. Armstrong, 2008, Alexandria, VA: Association for Supervision and Curriculum Development. Copyright 2008.

As shown, each intelligence possesses different techniques, materials, and ways that teachers should be aware of when implementing the Multiple Intelligences model.

**Conclusion**

*Intelligence* means having the capacity of solving problems daily. Therefore, the brain has the ability to execute on numerous intelligences simultaneously. However, each intelligence works differently (Gardner, 1999; Arulsevi, 2018). Gardner's Multiple Intelligences theory suggests nine intelligences, Logical/Mathematical, Linguistic, Spatial, Intrapersonal, Interpersonal, Musical, and Bodily-Kinesthetic, Naturalistic and Existential. This theory is a model of logical skills that a person owns to solve problems in life. Nevertheless, a series of factors can develop or obstruct those skills from developing in people like historical events, personal and cultural experiences (Gardner, 1999; Armstrong, 2008).

The theory of Multiple Intelligences by Howard Gardner has been acknowledged as a very significant approach to implement in the classrooms to help students in their academic performance. It is beneficial for students because they can use a variety of cognitive skills instead of focusing on just one skill. It is beneficial for teachers because they can use a extensive list of teaching strategies based on this approach to keep students engaged and boost students' learning potentials (Naeini, 2015; Armstrong, 2008; Berman 1998). Because ELLs are a rapidly growing population in public schools, the necessity of serving these students better to target language learning skills also increases every year. Consequently, teachers can help students in creating learning conditions where students do not feel frightened by learning a second language which is as a complex task. Teachers must make decisions that benefit students and enable their learning process (Herrera & Murry, 2011; Short et., al, 2018).

Studies carried out by Naeini (2015) emphasized that teachers should allow students to practice all intelligences and not to focus on just one student's most developed intelligence. In the same way, Aydin (2019) concluded in his study hat the implementation of Multiple Intelligences in the classroom had a positive effect in students' academic success when they were exposed to MI learning activities. In brief, by using the Multiple Intelligences model, teachers can provide a variety of authentic learning opportunities based on student's different learning styles. Teachers can accurately include activities in their daily lessons that target students' learning needs and strengthen the growth of students' intelligences.

## Chapter Three: Project Design

In this chapter, I explain the reasoning behind creating a handbook of specific strategies and activities for English language learners (ELLs) based on the theory of Multiple Intelligences by Howard Gardner as a way to target their language learning skills. This handbook seeks to guide teachers in helping students to acquire a second language more effectively and engagingly. It provides elementary teachers third through fifth with various teaching strategies that will guide their instruction, lesson delivery, and assessments for ELLs. In addition, a lesson example is attached so that teachers can incorporate it into their main lesson plans. Moreover, teachers can easily access a list of teaching strategies according to each Multiple Intelligence that can help them work simultaneously with different students with unique learning styles and different attitudes towards learning.

The brain of a human has the capacity to perform on numerous intelligences independently (Gardner, 1999). Therefore, if students have different and unique ways to learn, then teachers need to implement a variety of teaching strategies to meet their academic needs. Moreover, students can benefit from using the Multiple Intelligences model to take ownership in their learning and develop other skills from less developed intelligences. That is why teachers play a vital role when teaching students under this model. Once they develop it in their classrooms, they will notice students more engaged in the learning process, and students who are more dynamic and receptive. Research has shown that the English language learners population increases at school every year. Thus, it is important to equip those students with strategies that can target their learning skills and educational needs.

Even though many educators have embraced the theory of Multiple Intelligences in their classrooms, it is time for teachers of English language learners specifically to take advantage of all the benefits that come from teaching based on the research of Gardner (1983) and Armstrong (2008) about Multiple Intelligences. According to Herrera and Murry (2011), students who learn a second language can feel frightened due to the complexity of learning a new language. This means that teachers have the responsibility of creating a learning environment that is comfortable and less stressful for students. In the same way, teachers are required to choose the appropriate teaching strategies, methods, and activities that facilitate students' learning (Short et., al, 2018). Since teachers play an important role in educating, mentoring, and assisting ELLs, they must know how their students think, what they love to do, and what they need to develop different intelligences that enhance their learning (Short et., al, 2018; Armstrong, 2008).

Due to the difficulties that English language learners face, like not being proficient enough in English, or struggling in their academic tasks every day, this handbook provides strategies that will benefit teachers in understanding and accommodating lessons according to English language learners' different ways of learning. They can have more active students in their classrooms rather than passive recipients. Also, they become facilitators instead of doing the talking all the time. It will also benefit students to target their academic difficulties and make acquiring a second language smoother. In brief, the integration of the theory of Multiple Intelligences is advantageous for students and teachers because it provides students with learning opportunities that help nurture their learning abilities. It empowers teachers with various teaching tools to keep their students motivated.

The *Handbook of Multiple Intelligences Strategies for Teachers of ELLs* includes an overview of the theory of Multiple Intelligences by Howard Gardner because it is important that teachers are aware of this model. It also describes the Multiple Intelligences; it helps teachers to identify their Multiple Intelligences Profiles through an inventory checklist. This handbook provides teachers with a survey and a checklist to know their students better. It shows teachers how to address students when teaching about Multiple Intelligences. It also provides a chart with eight ways students learn and ways teachers should teach under the Multiple Intelligence model. This handbook allows teachers to move their teaching from a traditional way to a more engaging and varied way.

## Chapter 4: The Project

The present project is a design of a handbook that includes a variety of strategies to support teachers in targeting English language learners' (ELLs) language skills. This handbook also serves as a guide to increase ELLs' understanding of subject matter through the implementation of the Multiple Intelligences theory and for teachers to improve their instruction and lesson delivery. Moreover, it is important to indicate that the research developed by Dr. Gardner (1983) and Armstrong (2008) are a crucial part of this project because the strategies and activities suggested in this handbook have been adapted from their research findings.

This project's name is Handbook of Multiple Intelligences Strategies for Teachers of ELLs (Figure 4.1)

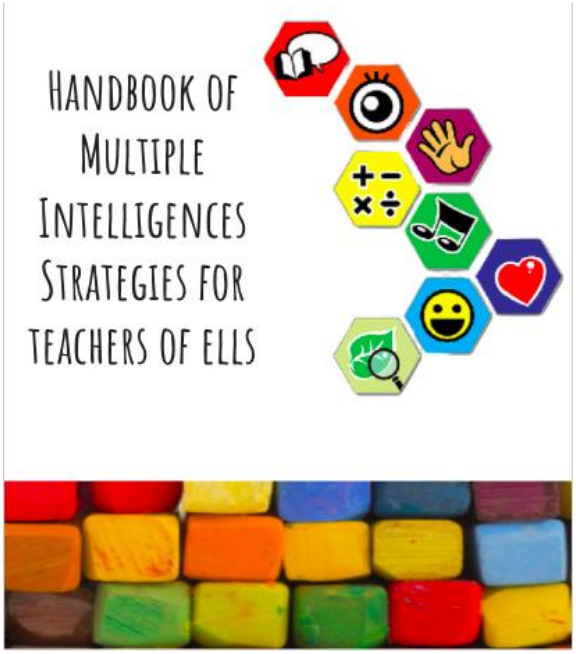


**Figure 4.1.** https://www.pngwing.com/en/free-png-paden

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**Figure 4.2.**

## Introduction

Implementing Multiple Intelligences strategies in English language learners can help students acquire a second language more effectively and engagingly. It also allows teachers to move their instructional practices from a traditional way to a more creative and varied way. Suppose you are a teacher looking for specific strategies, tools, resources, and activities to improve your instruction and lesson delivery. In that case, you should give this handbook of Multiple Intelligences a try.

This handbook will guide and empower you as a teacher for English language learners with different learning styles. In this handbook, you will find important information about Multiple Intelligences, you will also find various strategies and activities that you can implement in your lesson plans. By applying and using this handbook of Multiple Intelligences strategies, teachers will be facilitators of knowledge rather than providers, and students will take more action in their learning rather than being passive recipients.

**Multiple Intelligences Theory: An Overview**

Teachers play an important role when implementing Multiple Intelligences in their classrooms. Therefore, they need to be knowledgeable about Gardner's Multiple Intelligence theory. In 1983, Dr. Howard Gardner developed through his book *Frames of Mind: The Theory of Multiple Intelligences*, where he affirmed that each person possesses nine intelligences, and they all work differently (Arulsevi, 2018). Initially, Gardner (1983) suggested seven intelligences, Logical/Mathematical, Linguistic, Spatial, Intrapersonal, Interpersonal, Musical, and Bodily-Kinesthetic. Lately, he has suggested two more intelligences, Naturalistic and Existential. According to Gardner (1999), the brain of a human has the ability to perform on various intelligences independently. This means that people can creatively solve problems by using a diversity of intelligences.

https://videomaker.simpleshow.com/multiple-intelligences/

**The Nine Multiple Intelligences**

The *Theory of Multiple Intelligences* by Howard Gardner has become one of the primary English language teaching methods. This theory offers nine ways of teaching and learning styles. He suggested that everyone can develop all intelligences to a reasonably high level of performance with appropriate encouragement, enrichment, and instruction (Al-Salameh, 2012). The Multiple intelligences are summarized according to Al-Salameh (2012) as follows:

| | |
|---|---|
| Linguistic intelligence: | the ability to use words effectively both orally and in writing. |
| Logical-mathematical: | the ability to use numbers effectively and reason well. |
| Visual-spatial: | the ability to sense form, space, color, line, and shape. |
| Bodily-kinesthetic: | the ability to use the body to express ideas and feelings and to solving problems. |
| Musical: | the ability to sense rhythm, pitch, and melody. |
| Interpersonal: | ability to understand another person's moods, feelings, motivations, and intentions. |
| Intrapersonal: | the ability to understand yourself, your strengths, weaknesses, moods, desires, and intentions. |
| Naturalist: | the ability to recognize and classify plants, minerals, and animals |
| Existential: | the ability to ask and try to answer big questions which related to existence, and deep meaning of life (Rubado, 2002). |

**Identifying Teachers' Multiple Intelligences Profiles**

Teachers possess numerous roles as educators. This means that they are not just professionals in providing knowledge but in creating effective learning environments for students to be successful learners. However, Armstrong (2008), stated that applying the Multiple Intelligence model to ourselves as teachers is crucial before using it in the classroom setting. That is why, Christison (1996) created a Multiple Intelligence inventory for teachers to determine their own intelligence profile (Figure 4.3). This inventory can help educators to make decisions related to their teaching and learning activities that they can implement in the classroom.

**A Multiple Intelligence Inventory For Teachers**
**Mary Ann Christison, Snow College**

**Directions:** Rank each statement below 0, 1, or 2, Write 0 in the blank if the statement is not true. Write 2 in the blank if you strongly agree with the statement. A score of 1 places you somewhere in between. Compare your scores in different intelligences. What is your Multiple Intelligence Profile? What is your higher score? Your lowest?

***Linguistic Intelligence***
___1. I like to write articles and have them published.
___2. I read something almost every day that isn't related to my work.
___3. I often listen to the radio or to podcasts of lectures, books, etc.
___4. I always read the billboards and advertisement when I am on the freeway.
___5. I enjoy doing crossword puzzles.
___6. I use the OHP, posters, and quotations frequently in my lesson planning and presentations.
___7. If I hear a song a few times, I can usually remember the words.
___8. I am a good letter writer.
___9. Students spend most of their time reading and writing in my classes.
___10. I send copies of things I have read to other people.
___11. I own many books.
___12. I have written something that I really like.

***Musical Intelligence***
___1. I have a very expressive voice in front of my class, varying in intensity, pitch, and

emphasis.
___2. I often use music and chants in my lesson plans.
___3. I can tell if someone is singing off-key.
___4. I know the tunes to many different songs.
___5. I play a musical instrument.
___6. If I hear a new song once or twice, I can usually remember the tune.
___7. I often sing in the shower.
___8. Listening to music I like and am in the mood for makes me feel good.
___9. When I hear a piece of music, I can easily harmonize with it.
___10. I have no trouble identifying or following a beat.

***Logical-mathematical Intelligence***
___1. I feel more comfortable believing an answer is correct if it has been measured or calculated in some way.
___2. My classes are consistent; my students know what to expect in terms of rules and routines.
___3. I use problem-solving activities in my classes.
___4. I loved math classes in school.
___5. I can calculate numbers easily in my head.
___6. I love playing card games such as gin rummy or bridge.
___7. I love brain teaser games.
___8. When I cook, I measure things exactly.
___9. I am interested in new developments in science.
___10. I believe that most things have a logical and rational explain.

***Spatial Intelligence***
___1. I pay attention to the colors I wear, and colors other people wear.
___2. I take lots of photographs on trips and vacations.
___3. I own a camera and use it often.
___4. When I enter a classroom, I notice whether the positioning of the students and teacher supports the learning that is to take place.
___5. I like to read articles with many pictures.
___6. I like to use video in my lessons.
___7. I am partial to textbooks with illustrations, graphs, charts, and pictures.
___8. It is easy for me to find my way around in unfamiliar cities.
___9. I like to draw.
___10. I like doing puzzles and mazes.

***Bodily-Kinesthetic Intelligence***
___1. I like to go on rides at the amusement parks.
___2. I like to dance.
___3. I engage in at least one sport.
___4. I do activities in my classes that require that my students get out of their seats and move

around.
___5. I like to do things with my hands, such as knit, weave, sew, carve, or build models.
___6. I often get my best ideas when I am jogging, walking, vacuuming, or doing something physical.
___7. I find it most helpful to practice a new skill rather than to read about it or watch a video.
___8. I love being in the outdoors.
___9. I find it hard to sit for long periods of time.
___10. Most of my hobbies involve physical activity of some sort.

***Interpersonal Intelligence***
___1. I would prefer going to a party rather than spending the evening home alone.
___2. When I have problems, I like to discuss them with my friends.
___3. Students in my classes have input into the choice of content and learning processes.
___4. People often come to me with their problems.
___5. I am involved in social activities several nights a week.
___6. I like to entertain friends and have parties.
___7. I have more than one close friend.
___8. I love to teach or show someone how to do something.
___9. I am comfortable in a crowd or at a party with many people I don't know.
___10. I consider myself a leader and often assume leadership roles.

***Intrapersonal Intelligence***
___1. I regularly spend time meditating.
___2. I consider myself independent.
___3. I keep a journal and record my thoughts.
___4. I frequently create new activities and materials for my language classes.
___5. When I get hurt or disappointed, I bounce back quickly.
___6. I have hobbies or interests that I enjoy doing on my own.
___7. I am concerned about self-concept and self-esteem for my students.
___8. I give my students quiet time and thinking time, time to reflect on what they are doing.
___9. I would rather adapt lessons and create my own rather than use lessons directly from a book.
___10. I can articulate the main values that govern my life and describe the activities that I regularly participate in that are consistent with these values.

Figure 4.3. Multiple intelligences inventory for teachers. Adapted from *Applying multiple intelligence theory in the foreign language classroom*, by M. A. Christison, 1996, MEXTESOL Journal, 19(3), 27–43. Copyright 1996.

**Identifying Intelligences in Students**

Each student has a unique way of learning. According to Candler (2011), students can know their strengths easily if teachers teach or implement the Multiple Intelligences theory in their classrooms. On the one hand Candler (2011), created a quick and easy survey (Figure 4.4) for pupils to know and understand how they learn better. However, this survey does not detect weaknesses just because students score low in some areas. In addition, Candler (2011), suggested that teachers should take the survey first to decide the suitable way to show it to learners. This survey should be given within the first two weeks of school to get to know students better.

On the other hand, Armstrong (2008) stated that teachers should not trust computer-score tests or surveys completely. These types of tests can only provide hints of student's numerous intelligences. Instead, teachers should use simple observation. He wrote:

> I've often humorously suggested to teachers that one good way to identify students' most highly developed intelligences is to observe how they misbehave in class. The strongly linguistic student will be taking out of turn, the highly spatial student will be doodling and daydreaming, the interpersonally inclined student will be socializing, the bodily-kinesthetic student will be fidgeting, and the naturalistically engaged student might well bring an animal to class without permission! (Armstrong, 2008, p. 34).

In addition, Armstrong (2008) recommended teachers to observe students on how they spend their free time at school when they are not telling them what to do and to also keep a journal, diary, or notebook to record those observations. Figure 4.5 provides a checklist that can help teachers to organize students' observations based on Multiple Intelligences.

Name _____

## Getting To Know You Survey

**Directions**:
Fold the paper on the dark vertical line so that the eight columns on the right are folded back. Then read each statement below. Rate each statement from 0 to 5 according to how well the description fits you (0 = Not at All to 5 = Very True) Next unfold the paper and transfer each number over to the outlined block on the same row. Finally, add the numbers in each column to find the total score for each multiple intelligence area. The highest possible score in one area is 15. How many ways are you smart?

| Which of the following are true about you? | 0-5 | Naturalist | Mathematical-Logical | Verbal-Linguistic | Musical-Rhythmic | Visual-Spatial | Bodily-Kinesthetic | Interpersonal | Intrapersonal |
|---|---|---|---|---|---|---|---|---|---|
| I enjoy singing and I sing well. | | | | | ☐ | | | | |
| I love crossword puzzles and other word games. | | | | ☐ | | | | | |
| I like spending time by myself. | | | | | | | | | ☐ |
| Charts, maps, and graphic organizers help me learn. | | | | | | ☐ | | | |
| I learn best when I can talk over a new idea. | | | | | | | | ☐ | |
| I enjoy art, photography, or doing craft projects. | | | | | | ☐ | | | |
| I often listen to music in my free time. | | | | | ☐ | | | | |
| I get along well with different types of people. | | | | | | | | ☐ | |
| I often think about my goals and dreams for the future. | | | | | | | | | ☐ |
| I enjoy studying about the earth and nature. | | ☐ | | | | | | | |
| I enjoy caring for pets and other animals. | | ☐ | | | | | | | |
| I love projects that involve acting or moving. | | | | | | | ☐ | | |
| Written assignments are usually easy for me. | | | | ☐ | | | | | |
| I can learn new math ideas easily. | | | ☐ | | | | | | |
| I play a musical instrument (or would like to). | | | | | ☐ | | | | |
| I am good at physical activities like sports or dancing. | | | | | | | ☐ | | |
| I like to play games involving numbers and logic. | | | ☐ | | | | | | |
| My best way to learn is by doing hands-on activities. | | | | | | | ☐ | | |
| I love painting, drawing, or designing on the computer. | | | | | | ☐ | | | |
| I often help others without being asked. | | | | | | | | ☐ | |
| I enjoy being outside in all types of weather. | | ☐ | | | | | | | |
| I love the challenge of solving a difficult math problem. | | | ☐ | | | | | | |
| Having quiet time to think over ideas is important to me. | | | | | | | | | ☐ |
| I read for pleasure every day. | | | | ☐ | | | | | |
| **Totals** ➔ | | | | | | | | | |
| | | Nature | Math | Word | Music | Art | Body | People | Self |

Figure 4.4. Getting to Know You Survey. Adapted from the eBook *Teaching Multiple Intelligence Theory: Step-by-Step Lessons for the Intermediate Grades*, by L. Candler, 2011. (www.lauracandler.com/strategies/multipleintelligences.php.)

3.2

## Multiple Intelligences Checklist for Students

**Name of Student:** _____

*Check items that apply.*

**Linguistic Intelligence**

___Writes better than average for age
___Spins tall tales or tells jokes and stories
___Has a good memory for names, places, dates, or trivia
___Enjoys word games
___Enjoys reading books
___Spells words accurately (or if preschool, does developmental spelling that is advanced for age)
___Appreciates nonsense rhymes, puns, tongue twisters
___Enjoys listening to the spoken word (stories, commentary on the radio, talking books)
___Has a good vocabulary for age
___Communicates to others in a highly verbal way

**Other Linguistic Abilities:**

**Logical-Mathematical Intelligence**

___Asks a lot of questions about how things work
___Enjoys working or playing with numbers
___Enjoys math class (or if preschool, enjoys counting and doing other things with numbers)
___Finds math and computer games interesting (or if no exposure to computers, enjoys other math or science games)
___Enjoys playing chess, checkers, or other strategy games
___Enjoys working on logic puzzles or brainteasers (or if preschool, enjoys hearing logical nonsense)
___Enjoys putting things in categories, hierarchies, or other logical patterns
___Likes to do experiments in science class or in free play
___Shows interest in science-related subjects
___Does well on Piagetian-type assessments of logical thinking

**Other Logical-Mathematical Abilities:**

*(continued)*

**Musical Intelligence**

___ Tells you when music sounds off-key or disturbing in some other way
___ Remembers melodies of songs
___ Has a good singing voice
___ Plays a musical instrument or sings in a choir or other group (or if preschool, enjoys playing percussion instruments and/or singing in a group)
___ Has a rhythmic way of speaking or moving
___ Unconsciously hums to himself/herself
___ Taps rhythmically on the table or desk as he/she works
___ Is sensitive to environmental noises (e.g., rain on the roof)
___ Responds favorably when a piece of music is put on
___ Sings songs that he/she has learned outside of the classroom

**Other Musical Abilities:**

**Interpersonal Intelligence**

___ Enjoys socializing with peers
___ Seems to be a natural leader
___ Gives advice to friends who have problems
___ Seems to be street-smart
___ Belongs to clubs, committees, organizations, or informal peer groups
___ Enjoys informally teaching other kids
___ Likes to play games with other kids
___ Has two or more close friends
___ Has a good sense of empathy or concern for others
___ Is sought out for company by others

**Other Interpersonal Abilities:**

*(continued)*

3.2

## Multiple Intelligences Checklist for Students (continued)

**Spatial Intelligence**

___Reports clear visual images
___Reads maps, charts, and diagrams more easily than text (or if preschool, enjoys looking at more than text)
___Daydreams a lot
___Enjoys art activities
___Is good at drawings
___Likes to view movies, slides, or other visual presentations
___Enjoys doing puzzles, mazes, or similar visual activities
___Builds interesting three-dimensional constructions (e.g., Lego buildings)
___Gets more out of pictures than words while reading
___Doodles on workbooks, worksheets, or other materials

**Other Spatial Abilities:**

**Bodily-Kinesthetic Intelligence**

___Excels in one or more sports (or if preschool, shows physical prowess advanced for age)
___Moves, twitches, taps, or fidgets while seated for a long time in one spot
___Cleverly mimics other people's gestures or mannerisms
___Loves to take things apart and put them back together again
___Puts his/her hands all over something he/she's just seen
___Enjoys running, jumping, wrestling, or similar activities (or if older, will show these interests in a more "restrained" way—e.g., running to class, jumping over a chair)
___Shows skill in a craft (e.g., woodworking, sewing, mechanics) or good fine-motor coordination in other ways
___Has a dramatic way of expressing herself/himself
___Reports different physical sensations while thinking or working
___Enjoys working with clay or other tactile experiences (e.g., finger painting)

**Other Bodily-Kinesthetic Abilities:**

3.2

**Multiple Intelligences Checklist for Students (continued)**

**Intrapersonal Intelligence**

___Displays a sense of independence or a strong will
___Has a realistic sense of his/her abilities and weaknesses
___Does well when left alone to play or study
___Marches to the beat of a different drummer in his/her style of living and learning
___Has an interest or hobby that he/she doesn't talk much about
___Has a good sense of self-direction
___Prefers working alone to working with others
___Accurately expresses how he/she is feeling
___Is able to learn from his/her failures and successes in life
___Has good self-esteem

**Other Intrapersonal Abilities:**

**Naturalist Intelligence**

___Talks a lot about favorite pets, or preferred spots in nature, during class sharing
___Likes field trips in nature, to the zoo, or to a natural history museum
___Shows sensitivity to natural formations (e.g., while walking outside with the class, will notice mountains, clouds; or if in an urban environment, may show this ability in sensitivity to popular culture "formations" such as sneakers or automobile styles)
___Likes to water and tend to the plants in the classroom
___Likes to hang around the gerbil cage, the aquarium, or the terrarium in class
___Gets excited when studying about ecology, nature, plants, or animals
___Speaks out in class for the rights of animals or the preservation of planet earth
___Enjoys doing nature projects, such as bird watching, collecting butterflies or insects, studying trees, or raising animals
___Brings to school bugs, flowers, leaves, or other natural things to share with classmates or teachers
___Does well in topics at school that involve living systems (e.g., biological topics in science, environmental issues in social studies)

**Other Naturalist Abilities:**

Figure 4.5. Multiple intelligences checklist for students. Adapted from *Multiple Intelligences in the Classroom* (pp. 35-38), by T. Armstrong, 2008, Alexandria, VA: Association for Supervision and Curriculum Development. Copyright 2008.

**Introducing Multiple Intelligences to Students**

The best way to introduce the theory of Multiple Intelligences (MI) to students in this case, third through fifth grade, is by using simple terms. According to Armstrong (2008), this theory can be presented in five minutes, but teachers need to be aware of students' backgrounds and academic levels, the size of the class, and the instructional assets available. He wrote:

> I usually begin by asking, "How many of you think you're intelligent?' I've discovered that there seems to be an inverse relationship between the number of hands that go up and the grade level that I'm teaching, that is, the lower the grade level, the more hands go up. Regardless of the number of hands that go up, I usually say "All of you are intelligent, and not just in one way. Each of you is intelligent in at least eight different ways." I draw an "MI Pizza" (a circle divided into eight slices) on the board and the begin to explain the model (Armstrong, 2008, pp. 45).

Through the circle divided into eight parts Armstrong (2008) introduces eight of the MI in simple terms (Figure 4.6)

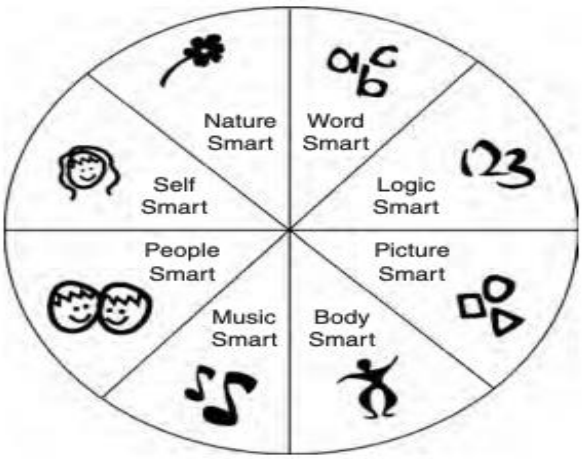


Figure 4.6. MI Pizza. Adapted from *Multiple Intelligences in the Classroom* (pp. 46), by T. Armstrong, 2008, Alexandria, VA: Association for Supervision and Curriculum Development. Copyright 2008.

In the same way, Candler (2011) created a kid-friendly visual (Figure 4.7) for teachers based on Armstrong simple terms explained through a pizza drawing. She also stated that even when Dr. Gardner added a ninth intelligence (Existential Intelligence), she does not recommend including it in lessons for elementary students due to the spiritual nature of it (Candler, 2011). Therefore, from this point forward, the handbook will focus only on eight intelligences.

Figure 4.7. Eight kinds of smart. Adapted from the eBook *Teaching Multiple Intelligence Theory: Step-by-Step Lessons for the Intermediate Grades*, by L. Candler, 2011. (www.lauracandler.com/strategies/multipleintelligences.php.)

**English Language Learners and the Ways they Learn**

Teachers need to know how their students think, what they love to do, and what they need to boost those intelligences. In the same way, teachers of English language learners specifically can help them to be successful in acquiring a second language by implementing the Multiple Intelligences model. Moreover, learning a second language is a complex and fearful task (Herrera & Murry, 2011). That is why ELLs already feel frightened in their classrooms due to their limited English proficiency. They can seem overwhelmed when they feel that they cannot complete all the teachers' academic assignments. Therefore, teachers are responsible for choosing the right teaching strategies, techniques, and methods that enable students' learning (Short et., al, 2018). In addition, teachers are required to know their students in a way that makes them aware of their students' beliefs, backgrounds, life experiences, what inspires them, and the abilities/talents they bring to the classroom (Short et., al, 2018, pp. 39).

In figure 4.8, an illustration of the MI model shows eight ways of learning for students, how students think, what they love to do, and what is needed when performing on a particular skill. Armstrong (2008) pointed out that teachers can take advantage of using a wide list of teaching strategies based on the MI model to help their students be successful at school. ELLs can benefit even more through the implementation of this model to overcome their English language barriers or limitations they face every day at school. That is why Sun (2019) stated that a second language could be acquired in the school setting in a smoother way.

3.1
**Eight Ways of Learning**

| Children who are highly . . . | Think . . . | Love . . . | Need . . . |
|---|---|---|---|
| ***Linguistic*** | in words | reading, writing, telling stories, playing word games | books, tapes, writing tools, paper, diaries, dialogue, discussion, debate, stories |
| ***Logical-Mathematical*** | by reasoning | experimenting, questioning, figuring out logical puzzles, calculating | materials to experiment with, science materials, manipulatives, trips to planetariums and science museums |
| ***Spatial*** | in images and pictures | designing, drawing, visualizing, doodling | art, Legos, videos, movies, slides, imagination games, mazes, puzzles, illustrated books, trips to art museums |
| ***Bodily-Kinesthetic*** | through somatic sensations | dancing, running, jumping, building, touching, gesturing | role-play, drama, movement, building things, sports and physical games, tactile experiences, hands-on learning |
| ***Musical*** | via rhythms and melodies | singing, whistling, humming, tapping feet and hands, listening | sing-along time, trips to concerts, playing music at home and school, musical instruments |
| ***Interpersonal*** | by bouncing ideas off other people | leading, organizing, relating, manipulating, mediating, partying | friends, group games, social gatherings, community events, clubs, mentors/apprenticeships |
| ***Intrapersonal*** | in relation to their needs, feelings, and goals | setting goals, meditating, dreaming, planning, reflecting | secret places, time alone, self-paced projects, choices |
| ***Naturalist*** | through nature and natural forms | playing with pets, gardening, investigating nature, raising animals, caring for planet earth | access to nature, opportunities for interacting with animals, tools for investigating nature (e.g., magnifying glasses, binoculars) |

Figure 4.8. Sample of eight ways of learning based on the MI model. Adapted from *Multiple Intelligences in the Classroom* (p.33), by T. Armstrong, 2008, Alexandria, VA: Association for Supervision and Curriculum Development. Copyright 2008.

**Ways to Teach Based on the MI Model**

Teachers that deliver a lesson under the MI model are frequently switching from one intelligence to another, mixing them in innovative ways (Armstrong, 2008). This means that teachers are willing to create learning environments where students feel comfortable, but at the same time, they are able to take ownership of their learning. Moreover, Armstrong (2008) stated that the eight intelligences can be stimulated even through traditional linguistic teaching. He wrote:

> The teacher who lectures with rhythmic emphasis (musical), draws pictures on the board to illustrate points (spatial), makes dramatic gestures as she/he talks (bodily-kinesthetic), pauses to give students time to reflect (intrapersonal), asks questions that invite spirited interaction (intrapersonal), and includes references to nature in her/his lectures (naturalist) is using MI principles within a traditional teacher-centered perspective.

In addition, Armstrong (2008) listed several strategies, teaching tools, techniques, and materials based on Multiple Intelligences that teachers can implement in their classrooms. Figure 4.9 offers a summary of those MI teaching methods.

**5.1 Summary of the Eight Ways of Teaching**

| Intelligence | Teaching Activities (Examples) | Teaching Materials (Examples) | Instructional Strategies | Sample Educational Movement (primary intelligence) | Sample Teacher Presentation Skill | Sample Activity to Begin a Lesson |
|---|---|---|---|---|---|---|
| **Linguistic** | Lectures, discussions, word games, storytelling, choral reading, journal writing | Books, tape recorders, typewriters, stamp sets, books on tape, online books | Read about it, write about it, talk about it, listen to it | Critical Literacy | Teaching through storytelling | Long word on the blackboard |
| **Logical-Mathematical** | Brain Teasers problem solving, science experiments, mental calculation, number games, critical thinking | Calculators, math manipulatives, science equipment, math games | Quantify it, think critically about it, put it in a logical framework, experiment with it | Critical Thinking | Socratic questioning | Posing a logical paradox |
| **Spatial** | Visual presentations, art activities, imagination games, mind-mapping, metaphor, visualization | Graphs, maps, video, Lego sets, art materials, optical illusions, cameras, picture library | See it draw it, visualize it, color it, mind-map it | Integrated Arts Instruction | Drawing, mind-mapping concepts | Unusual picture on the overhead |
| **Bodily-Kinesthetic** | Hands-on learning, drama, dance, sports that teach, tactile activities, relaxation exercises | Building tools, clay, sports equipment, manipulatives, tactile learning resources | Build it, act it out, touch it, get a “gut feeling” of it, dance it. | Hands-On Learning | Using gestures, dramatic expressions | Mysterious artifact passed around the class |
| **Musical** | Rhythmic learnings, rapping, using songs that teach | Tape recorder, tape collection, musical instruments | Sing it, rap it, listen to it | Orff Schulwerk | Using voice rhythmically | Piece of music played as students come into class |

| **5.1 Summary of the Eight Ways of Teaching (continued)** | | | | | | |
|---|---|---|---|---|---|---|
| **Interpersonal** | Cooperative learning, peer tutoring, community involvement, social gatherings, simulations | Board games, party supplies, props for role-plays | Teach it, collaborate on it, interact with respect to it | Cooperative Learning | Dynamically interacting with students | "Turn to a neighbor and share…" |
| **Intrapersonal** | Individualized instruction, independent study, options in course of study, self-esteem building | Self-checking materials, journals, materials for projects | Connect it to your personal life, make choices with regard to it, reflect on it | Individualized Instructions | Bringing feeling into presentation | "Close your eyes and think of a time in your life when…" |
| **Naturalist** | Nature study, ecological awareness, care of animals | Plants, animals, naturalists' tools (e.g., binoculars), gardening tools | Connect it to living things and natural phenomena | Ecological Studies | Linking subject matter to natural phenomena | Bring in an interesting plant or animal to spark discussion about topic |

Figure 4.9. Sample of eight ways of teaching based on the MI model. Adapted from *Multiple Intelligences in the Classroom* (pp. 58-59), by T. Armstrong, 2008, Alexandria, VA: Association for Supervision and Curriculum Development. Copyright 2008.

**Teaching Strategies based on the MI Model**

Teachers who advocate for English language learners are constantly looking for strategies, techniques, and methods that can help to improve their academic performance. That is why Armstrong (2008) offers a number of teaching strategies (Figure 4.10) based on the MI model (pp.60-69). When teachers implement these strategies into their lesson plans, they can reflect upon their practice and make changes; they become innovators.

| Linguistic | Logical-Mathematical | Spatial |
|---|---|---|
| • Books<br>• Brainstorming<br>• Choral reading<br>• Debates<br>• Extemporaneous speaking<br>• Individualized reading<br>• Journal Keeping<br>• Large and small group discussions<br>• Lectures<br>• Manuals<br>• Memorizing linguistic facts<br>• Publishing (e.g., creating newspapers).<br>• Reading to the class<br>• Sharing time<br>• Storytelling<br>• Student speeches<br>• Talking books<br>• Tape recording one's words<br>• Using word processing software<br>• Word games<br>• Worksheets<br>• Writing activities | • Classifications and categorizations<br>• Computer programming languages<br>• Creating codes<br>• Heuristics<br>• Logic puzzles and games<br>• Logical problem-solving exercises<br>• Logical-sequential presentation of subject matter<br>• Mathematical problems on the board<br>• Piagetian cognitive exercises<br>• Calculations and Quantifications<br>• Science thinking<br>• Scientific demonstrations<br>• Socratic questioning | • 3-D construction kits<br>• Art appreciation<br>• Charts, graphs, diagrams, and maps<br>• Color cues<br>• Computer graphics software<br>• Creative daydreaming<br>• Draw and paint<br>• Graphic symbols<br>• Idea sketching<br>• Imaginative storytelling<br>• Mind-maps and other visual organizers<br>• Optical illusions<br>• Painting, collage, and other visual arts<br>• Photography<br>• Picture literacy experiences<br>• Picture metaphors<br>• Videos, slides, and movies<br>• Visual awareness activities<br>• Visual pattern seeking<br>• Visual puzzles and mazes<br>• Visual thinking exercises<br>• Visualization |

| Bodily-Kinesthetic | Musical | Interpersonal |
|---|---|---|
| • Body answers<br>• Body maps<br>• Classroom theater<br>• Competitive and cooperative games<br>• Cooking, gardening, and other messy activities<br>• Crafts<br>• Creative movement<br>• Field trips<br>• Hands-on activities of all kinds<br>• Hands-on thinking<br>• Kinesthetic concepts<br>• Manipulatives<br>• Mime<br>• Physical awareness exercises<br>• Physical education activities<br>• Physical relaxation exercises<br>• Tactile materials and experiences<br>• Use of kinesthetic imagery<br>• Using body language/hand signals to communicate<br>• Virtual reality software | • Creating new melodies for concepts<br>• Discographies<br>• Group singing<br>• Linking old tunes with concepts<br>• Listening to inner musical imagery<br>• Mood music<br>• Music appreciation<br>• Musical composition software<br>• Musical concepts<br>• Playing live music on piano, guitar, or other instruments<br>• Playing percussion instruments<br>• Playing recorded music<br>• Rhythms, songs, raps, and chants<br>• Singing, humming, or whistling<br>• Super memory music<br>• Using background music | • Academic clubs<br>• Apprenticeships<br>• Board games<br>• Community involvement<br>• Conflict mediations<br>• Cooperative groups<br>• Cross-age tutoring<br>• Group brainstorming sessions<br>• Interactive software or internet platforms<br>• Interpersonal interaction<br>• Parties or social gatherings as context for learning<br>• Peer sharing<br>• People sculptures<br>• Simulations |

| Intrapersonal | Naturalist |
|---|---|
| • Choice time<br>• Exposure to inspirational/motivational curricula<br>• Feeling toned moments<br>• Goal-setting sessions<br>• Independent study<br>• Individualized projects and games<br>• Interest centers<br>• One-minute reflection periods<br>• Options for homework<br>• Personal connections<br>• Private spaces for study<br>• Self-esteem activities<br>• Self-paced instruction<br>• Self-teaching programmed instruction | • Aquariums, terrariums, and other portable ecosystems<br>• Class weather station<br>• Eco study<br>• Gardening<br>• Nature-oriented software<br>• Nature study tools (binoculars, telescope, microscope)<br>• Nature videos, films, and movies<br>• Nature walks<br>• Pet in the classroom<br>• Plants as props<br>• Window onto learning |

Figure 4.10. Teaching strategies based on the MI model. Adapted from *Multiple Intelligences in the Classroom* (pp. 60-64), by T. Armstrong, 2008, Alexandria, VA: Association for Supervision and Curriculum Development. Copyright 2008.

**Incorporating the MI Model into Lesson Plans for ELLs**

By implementing the MI model in Lesson plans, ELL teachers can address any skill, content area, or objective in eight different ways (Armstrong, 2008, p. 64). This provides a variety of ways to keep students engaged during their learning time. However, there are some questions teachers should ask themselves before planning their lessons (Figure 4.11).

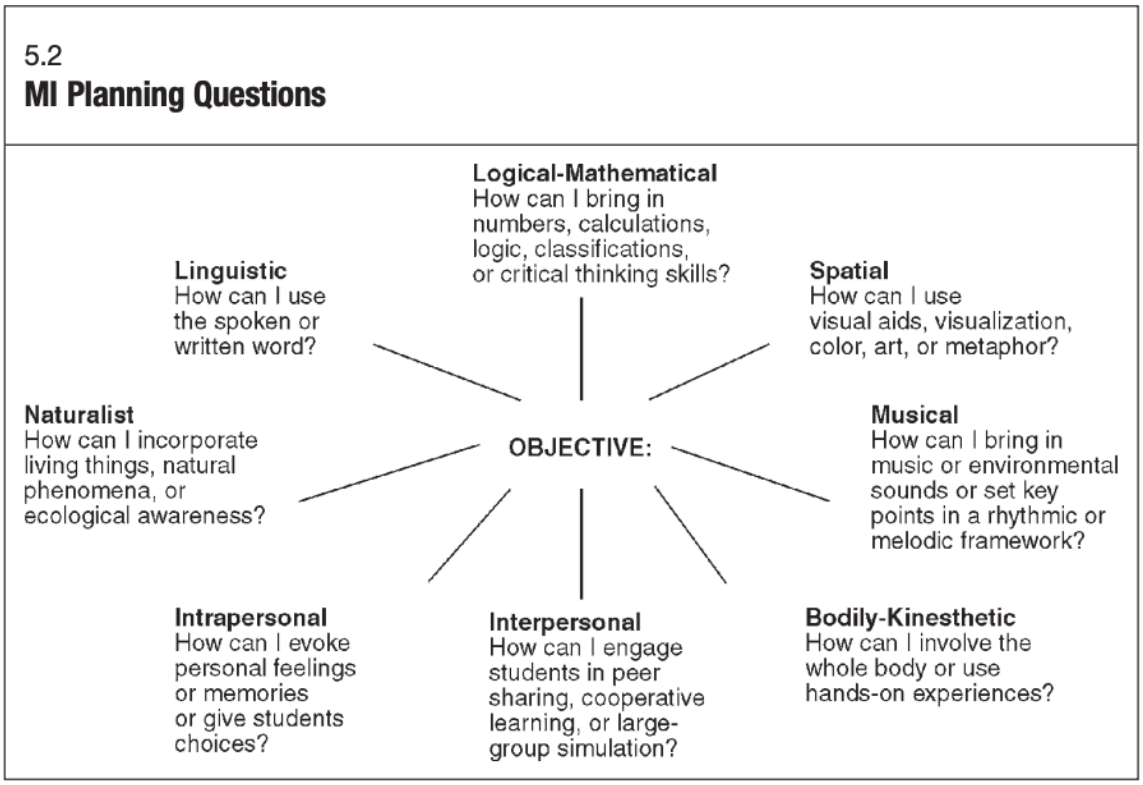


Figure 4.11. MI planning questions. Adapted from *Multiple Intelligences in the Classroom* (pp. 65), by T. Armstrong, 2008, Alexandria, VA: Association for Supervision and Curriculum Development. Copyright 2008.

The following pages (Figures 4. 12, 13, 14) provide ideas on how to apply the Multiple Intelligences in lesson plans daily and two examples of lesson plans (4th Grade Math, 3rd Grade Reading, and Writing) where the MI model has been incorporated; teachers can use these examples as a guide when planning lessons.

**5.5**
**Sample Eight-Day MI Lesson Plan** **Level:** 4th Grade **Subject:** Language Arts

**Objective:** To understand the function of, and differences between, four punctuation marks: the question mark, period, comma, and exclamation point.

**Monday (Linguistic Intelligence):** Students listen to a verbal explanation of the function of punctuation marks, read sentences having examples of each mark, and complete a worksheet requiring them to fill in their own marks.

**Tuesday (Spatial Intelligence):** The teacher draws on the board graphic images that correspond in meaning and form to each mark. Question mark = a hook, since questions "hook" us into requiring an answer; exclamation point = a staff that you pound on the floor when you want to exclaim something; a period = a point, since you've just made your point, plain and simple; and a comma = a brake pedal, since it requires you to temporarily stop in the middle of a sentence. Students can make their own images and then place them as pictures in sentences (with different colors assigned to different marks).

**Wednesday (Bodily-Kinesthetic Intelligence):** The teacher asks students to use their bodies to form the shapes of the different punctuation marks as she reads the sentences requiring these marks (e.g., a curved body posture for a question mark).

**Thursday (Musical Intelligence):** Students make up different sounds for the punctuation marks (as Victor Borge did in his comedy routines) and then make these sounds in unison as different students read sample sentences requiring the use of the four marks.

**Friday (Logical-Mathematical Intelligence):** Students form groups of four to six. Each group has a box divided into four compartments, each of which is assigned and punctuation mark. The groups sort sentence stubs with missing punctuation marks (one per sentence stub) into the four compartments according to the punctuation needed.

**Monday (Interpersonal Intelligence):** Students form groups of four to six. Each student has four cards, and each card has a different punctuation mark written on it. The teacher places a sentence requiring a given punctuation mark on the overhead projector. As soon as students see the sentence, they toss the relevant card in the center of their group's circle. The first student in the group to throw in a correct card gets five points, the second four, and so on.

**Tuesday (Intrapersonal Intelligence):** Students are asked to create their own sentences using each of the punctuation marks; the sentences should relate to their personal lives (e.g., a question they'd like others to know about).

**Wednesday (Naturalist Intelligence):** Students are asked to assign an animal and its respective sound to each of the punctuation marks (e.g., a period might be a dog barking; a comma, a duck quacking; a question mark, a cat meowing; and an exclamation point, a lion roaring). As the teacher (or student) reads a passage, the students make the animal sounds corresponding to each punctuation mark encountered.

Figure 4.12. Sample eight-day MI lesson plan. Adapted from *Multiple Intelligences in the Classroom* (pp. 68, by T. Armstrong, 2008, Alexandria, VA: Association for Supervision and Curriculum Development. Copyright 2008.

**Figure 4.13: Daily Lesson Plan Samples**

| | |
|---|---|
| Subject: 3rd Grade ESL Reading & Writing (ELA)<br><br>Central Focus: Nouns<br><br>Length: 45 min | Date submitted: Date Taught: |
| Essential Standard/Common Core Objective:<br><br>L.3.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.<br><br>L.3.1a Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences. | |
| Daily Lesson Objective:<br>• By the end of the lesson, students will be able to explain the role of a noun and be able to identify nouns in sentences. | |
| Multiple Intelligences:<br>• Linguistic<br>• Bodily-Kinesthetic<br>• Musical<br>• Intrapersonal<br>• Interpersonal | Vocabulary:<br>• Nouns: they name people, animals, places, and things. |

| Activity | Description of Activities and Setting | Time |
|---|---|---|
| 1. Statement of Objectives for Student | Students will be able to:<br>• Explain the role of a noun and be able to identify nouns in sentences. | 2 min |
| 2. Teacher Input | • Share with the students the purpose of learning grammar: so that we can become better speakers and writers.<br>• Tell students that today they will be learning about what a noun is and how to find them in a sentence.<br>• Ask students to look around the room and look for objects. Call on a few students to share their item.<br>• Explain that all of those objects are nouns, which are the words we use for people, places, and things.<br>• Play a song about nouns to your students to solidify this idea, if necessary.<br>• You could have students raise a hand when they hear nouns mentioned to make the activity more interactive. | 15 min |

| | | |
|---|---|---|
| 3. Guided Practice | • Explain to the class that they are going to complete a noun storm. Draw 3 columns on the board. Label your columns "people," "places," and "things."<br>• Explain that you need help thinking of as many nouns for people as you can. Record student answers while they share. Ask students to pair up and copy your graph. Tell students that they are to work on columns 2 and 3 and list as many nouns for places and things as they can think of together. | 10 min |
| 4. Independent Practice | • Tell students that during independent working time they are to write out a short story about what happened at recess, lunch, or PE today.<br>• Tell students that you are going to set a timer for 2 minutes, and that they are meant to go through their stories and circle as many nouns as they can.<br>• Remind students those nouns are people, places, and things. | 12 min |
| 5. Closure | Ask students to define noun again. Ask students if they have any lasting questions. | 5 min |
| 6. Assessment Results of all objectives/skills: | • Write "1. Brandon found a cute, green turtle by the side of the road." and "2. Did you know that Jamari wants to travel to New York?" on the board.<br>• Give students sticky notes and ask them to write the nouns found in each sentence. | |
| Targeted Students Modifications/Accommodations<br><br>**Enrichment:** Have students switch their papers with a partner and check to see if each other found all the nouns in their stories. Use a different color of ink so changes can be seen. If students can correct a peer's work, then it will show the student has a good grasp on nouns.<br><br>**Support:** Students who might have a hard time quickly writing a story can look through a book they have at their desk and write down on a separate sheet of paper all the nouns they find.<br>Student/Small Group Modifications/Accommodations | | |
| Materials/Technology:<br>• Noun anchor chart including the definition of a noun and possibly including a list of nouns, optional. Lined paper and sticky notes | | |
| Reflection on lesson: | | |

Figure 4.13. Nouns lesson. Adapted from *Education.com*, 2015. (https://www.education.com/download/lesson-plan/all-about-nouns/all-about-nouns.pdf)

| | |
|---|---|
| **Subject:** 4th Grade Math<br><br>Central Focus: Modeling Mixed Number Subtraction<br><br>Length: 45 min | **Date submitted:** **Date Taught:** |
| **Essential Standard/Common Core Objective:**<br>CCSS.MATH.CONTENT.4.NF.B.3.C:<br>"Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction." | |
| **Daily Lesson Objective:**<br>By the end of the lesson students will be able to model subtraction for mixed numbers with like denominators. | |
| **Multiple Intelligences:**<br>· Logical-Mathematical<br>· Bodily-Kinesthetic<br>· Interpersonal<br>Spatial | **Vocabulary:**<br>Minuend<br>subtrahend<br>difference |

| **Activity** | **Description of Activities and Setting** | **Time** |
|---|---|---|
| 1. Statement of Objectives for Student | Students will be able to:<br>· Students will learn to model mixed number subtraction with manipulatives using this hands-on lesson plan. | 2 min |
| 2. Teacher Input | *Introduction (5 minutes)<br>Post a subtraction number sentence for all students to see. Then ask your students to name as many parts of the sentence as possible. Jot student answers for future reference, including the following terms: "minuend," "subtrahend," "subtraction sign," "equal sign," and "difference." Explain the names of three key parts of a subtraction expression: minuend: the amount being subtracted from subtrahend: the amount being subtracted difference: the answer to a subtraction expression<br>*EL Beginning: Allow students to use their home language (L1) or new language (L2) in their discussions. Provide visuals for the key terms and make sure to label the number sentence with the appropriate name for reference. Have students turn and recite the meaning of the words to their partners. *Intermediate: Write the academic language students can use throughout the lesson on the board as you introduce the language. Ask them to rephrase the meanings of the new vocabulary to their partner. | 15 min |

| | | |
|---|---|---|
| 3. Guided Practice | **Explicit Instruction/Teacher modeling**<br>*Tell your students that they'll be learning to model mixed number subtraction with like denominators. Show the Mixed Number Subtraction Modeling Mat worksheet to your students and post the following expression: $3\ 5/9 - 1\ 2/9$ . Using the mat, model the minuend using markers (i.e., beads, cubes or even cut out dots) for $3\ 5/9$ by placing: three markers in the whole number minuend circle, five markers in the numerator minuend circle, nine markers in the denominator circle. Subtract the subtrahend ($1\ 2/9$ ) into the section beyond the minuend circle for the whole number and the numerator by moving: one marker beyond the whole number minuend circle to the subtrahend area, two markers beyond the numerator minuend circle to the subtrahend area. Note the expression by filling in the sentence frame as, "This is a model of $3\ 5/9 - 1\ 2/9$ ." Note the difference by filling in the sentence frame as, "The difference is $2\ 3/9$ ." Point out to your students how the mat at this stage models the difference as well as the steps in solving the mixed number subtraction problem. Answer any clarifying questions.<br>*EL Beginning: Give students vocabulary cards and allow them to draw visuals for the new terms. Provide them reference materials in their L1 to look up new terms. Tell them to use their mat and their counters as they answer clarifying questions about the mat and what each section represents.<br>*Intermediate: Provide vocabulary cards for the key terms and ask students to rephrase the definitions as they go. Have ELs restate in partners the method for creating the visual model of a fraction subtraction problem.<br><br>*Hand out the Mixed Numbers Subtraction Models worksheet and the Mixed Numbers Subtraction Model Mat worksheet to your students. Lead your class through the instructions on the Mixed Numbers Subtraction Models worksheet. Model the illustrated example by selecting students for each step on their Mixed Numbers Subtraction Model Mat. Observe student models for accuracy. Have your class illustrate their procedure for the first exercise on their Mixed Numbers Subtraction Models worksheet and answer any clarifying questions. Provide another example in which students need to consider borrowing from the minuend to complete the problem (e.g., $4\ 1/4 - 1\ 3/4$ ). Ask students, "How is this problem the same as the first exercise?" Encourage students to share aloud and ask a volunteer to model the process of borrowing, with help from peers.<br>*EL Beginning: Encourage students to use the vocabulary cards for assistance in their explanations. Have them restate key information students shared during the presentations.<br>*Intermediate: Have students present using their L1 or L2 to explain the next step in the modeling process. Write the sequencing phrases you use in sentences while you model your process so that students can refer to them in their conversations: "First, I ____. Then, I ____. I ____. Finally, ____." | 10 min |

| | | |
|---|---|---|
| 4. Independent Practice | Instruct your students to complete the remaining exercises: first by modeling their work with manipulatives on the Mixed Numbers Subtraction Modeling Mat, then by illustrating their work on the Mixed Numbers Subtraction Models worksheet.<br>*EL Beginning: Have students work in a teacher-led group so that the teacher can monitor their process and ask probing questions as necessary.<br>*Intermediate: Allow students to explain their answers to a partner when finished. | 12 min |
| 5. Closure | Ask students, "What clues does a difference give about the minuend and subtrahend?" Student observations might include how the minuend and subtrahend are both less than the difference. Encourage clear explanations and assistance from other students whenever possible.<br>*EL Beginning: Allow students to share their explanations with their partners before sharing with the whole class. Define the word "clues" and provide a relatable example for them to understand the question.<br>*Intermediate: Provide sentence frames, such as, "The difference tells me ____. I know the minuend will be ____ because the difference is ____. Because the difference is ____, I know ____." | 5 min |
| 6. Assessment Results of all objectives/skills: | Show an illustrated example of a completed mixed number subtraction problem. Have your students tell you the original subtraction expression of the illustrated difference.<br>*EL Beginning: Model for students how to create a number sentence from the visual model before asking them to do it themselves. Allow them to explain their answers in their L1 or L2.<br>*Intermediate: Have students explain their answers using sequencing words and the new vocabulary. Give them a sentence stem for their explanations, such as, "The original expression is ____." | |
| Targeted Students Modifications/Accommodations<br>**Support:** Have students use the Mixed Numbers Subtraction Modeling Mat worksheet in small groups before illustrating their work. **Enrichment:** Propose subtraction problems with larger subtrahend numerators than minuend numerators. | | |

| |
|---|
| Materials/Technology:<br>Digital photographs of finished expression models can be integrated into Google or Word documents, which make for fine assessments or exercises. Student explanation recording postings into Google Classroom make excellent customized references for students to access when completing new exercises. |
| Reflection on lesson: |

Modeling mixed number subtraction Adapted from *Education.com*, 2017. (https://www.education.com/download/lesson-plan/modeling-mixed-number-subtraction/modeling-mixed-number-subtraction.pdf)

## Chapter 5: Conclusion

The number of English Language Learners (ELLs) rises in public schools every year; therefore, it is crucial to equip teachers with strategies, tools, and resources to serve ELLs effectively. These students face many challenges at school. They are usually quiet students in the classroom because they already feel intimidated and stressed for not communicating with their teachers and classmates. They can often not complete grade-level academic tasks, which hinders their academic performance. Therefore, teachers are responsible for creating learning environments where ELLs feel confident in learning a new language along with academic content. That is why the school is the best place to acquire a language in a less-stressful way (Sun, 2019). In addition, teachers should be aware of the importance of providing students with learning strategies and techniques to acquire a second language successfully.

Creating this project helped me realize that teaching ELLs demands many responsibilities. This means that teachers have several roles within the classroom; they teach, assist, counsel, guide, and advocate for these students. That is why there is an urgent need for equipping teachers to help ELLs to succeed academically. However, for students to perform effectively at school, they need to learn the English skills that are necessary to successfully complete all the academic assignments required at the grade level. Indeed, teachers play an important role in their students' second language acquisition because they should provide students with learning strategies and techniques to acquire a second language. Moreover, teachers of ELLs must continuously make the appropriate decisions related to teaching

techniques, methods, or strategies; teachers need to know what enables students' learning process (Short et., al, 2018).

Furthermore, I have learned how significant is the task of implementing teaching strategies that allow ELLs feel confident and comfortable when learning a second language. Especially strategies that match their learning styles. This means that students would perform more actively and engagingly when they are taught with strategies involving collaboration, enthusiasm, creativity, dynamism, and more interaction based on the ways they learn. That is why I believe that the implementation of the theory of Multiple Intelligences by Howard Gardner in ELLs' classrooms can equip teachers with a variety of teaching strategies to address students' different learning styles. According to Gardner (1999), the brain of a human can perform on numerous intelligences independently. Hence, ELLs can demonstrate more growth in their language acquisition skills when using their areas of strength. They can benefit from using the Multiple Intelligences model to take ownership in their learning and foster other skills from less developed intelligences.

Due to the need to implement effective methods, approaches, strategies, and resources to serve ELLs better, I have created a *Handbook of Multiple Intelligences Strategies for Teachers of ELLs*. I hope this handbook informs teachers about the theory of Multiple Intelligences and helps them identify their Multiple Intelligences profiles. This handbook also provides teachers with a survey and a checklist to know their students better. It will equip teachers with a variety of teaching strategies that they can apply based on the Multiple Intelligence model. The main goal of this handbook is to encourage teachers to move their teaching from a traditional way to a more engaging and varied way. I hope teachers of ELLs find this handbook helpful and use it as an effective tool when planning their lessons to increase students' engagement in language learning

tasks. However, when reviewing the literature related to the MI theory, I realized that further investigation is needed of the implementation of this model in the ESL context.

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